

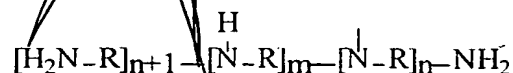
CLAIMS

1. A laundry detergent composition comprising a mannanase enzyme and a cotton polyethyleneimine soil release polymer.

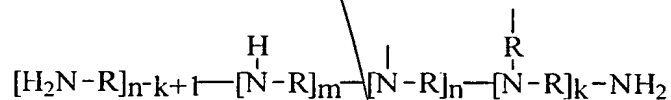
2. A laundry detergent composition according to claim 1 wherein said mannanase is present at a level of from 0.0001% to 2%, preferably from 0.0005% to 0.5%, more preferably from 0.001% to 0.1% pure enzyme by weight of total composition.

3. A laundry detergent composition according to claims 1-2 wherein the cotton polyethyleneimine soil release polymer is comprised at a level of from 0.0001% to 20%, preferably 0.001% to 15%, more preferably from 0.01% to 10%.

4. A laundry detergent composition according to claims 1-3 wherein the cotton polyethyleneimine soil release polymer is of the following formula :

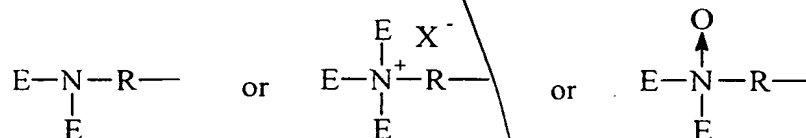


having a modified polyamine formula  $V_{(n+1)}W_mY_nZ$  or a polyamine backbone corresponding to the formula:



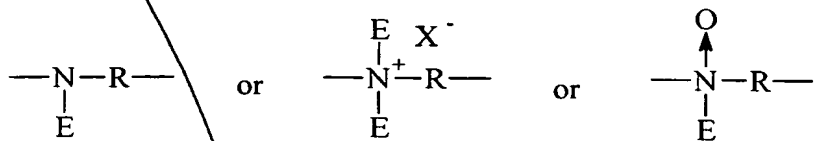
having a modified polyamine formula  $V_{(n-k+1)}W_mY_nY'_kZ$ , wherein k is less than or equal to n, said polyamine backbone prior to modification has a molecular weight greater than about 200 daltons, wherein

i) V units are terminal units having the formula:

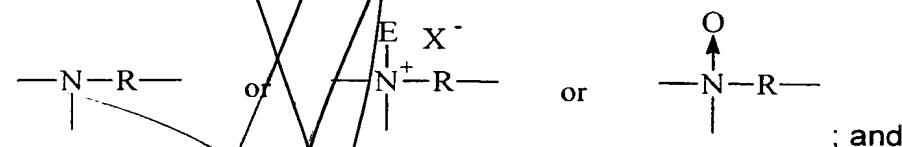


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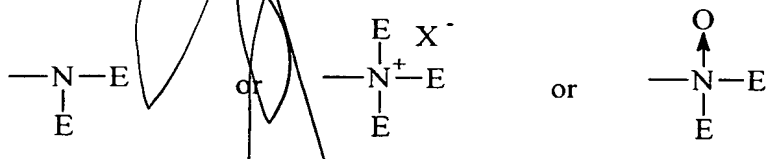
ii) W units are backbone units having the formula:



iii) Y units are branching units having the formula:



iv) Z units are terminal units having the formula:



wherein backbone linking R units are selected from the group consisting of C<sub>2</sub>-C<sub>12</sub> alkylene, C<sub>4</sub>-C<sub>12</sub> alkenylene, C<sub>3</sub>-C<sub>12</sub> hydroxyalkylene, C<sub>4</sub>-C<sub>12</sub> dihydroxy-alkylene, C<sub>8</sub>-C<sub>12</sub> dialkylarylene, -(R<sup>1</sup>O)<sub>x</sub>R<sup>1</sup>-, -(R<sup>1</sup>O)<sub>x</sub>R<sup>5</sup>(OR<sup>1</sup>)<sub>x</sub>-, -(CH<sub>2</sub>CH(OR<sup>2</sup>)CH<sub>2</sub>O)<sub>z</sub>-(R<sup>1</sup>O)<sub>y</sub>R<sup>1</sup>(OCH<sub>2</sub>CH(OR<sup>2</sup>)CH<sub>2</sub>)<sub>w</sub>-, -C(O)(R<sup>4</sup>)<sub>r</sub>C(O)-, -CH<sub>2</sub>CH(OR<sup>2</sup>)CH<sub>2</sub>-, and mixtures thereof; wherein R<sup>1</sup> is C<sub>2</sub>-C<sub>6</sub> alkylene and mixtures thereof; R<sup>2</sup> is hydrogen, -(R<sup>1</sup>O)<sub>x</sub>B, and mixtures thereof; R<sup>3</sup> is C<sub>1</sub>-C<sub>18</sub> alkyl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>7</sub>-C<sub>12</sub> alkyl substituted aryl, C<sub>6</sub>-C<sub>12</sub> aryl, and mixtures thereof; R<sup>4</sup> is C<sub>1</sub>-C<sub>12</sub> alkylene, C<sub>4</sub>-C<sub>12</sub> alkenylene, C<sub>8</sub>-C<sub>12</sub> arylalkylene, C<sub>6</sub>-C<sub>10</sub> arylene, and mixtures thereof; R<sup>5</sup> is C<sub>1</sub>-C<sub>12</sub> alkylene, C<sub>3</sub>-C<sub>12</sub> hydroxyalkylene, C<sub>4</sub>-C<sub>12</sub> dihydroxy-alkylene, C<sub>8</sub>-C<sub>12</sub> dialkylarylene, -C(O)-, -C(O)NHR<sup>6</sup>NHC(O)-, -R<sup>1</sup>(OR<sup>1</sup>)-, -C(O)(R<sup>4</sup>)<sub>r</sub>C(O)-, -CH<sub>2</sub>CH(OH)CH<sub>2</sub>-, -CH<sub>2</sub>CH(OH)CH<sub>2</sub>O(R<sup>1</sup>O)<sub>y</sub>R<sup>1</sup>-OCH<sub>2</sub>CH(OH)CH<sub>2</sub>-, and mixtures thereof; R<sup>6</sup> is C<sub>2</sub>-C<sub>12</sub> alkylene or C<sub>6</sub>-C<sub>12</sub> arylene; E units are selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>22</sub> alkyl, C<sub>3</sub>-C<sub>22</sub> alkenyl, C<sub>7</sub>-C<sub>22</sub> arylalkyl, C<sub>2</sub>-C<sub>22</sub> hydroxyalkyl, -(CH<sub>2</sub>)<sub>p</sub>CO<sub>2</sub>M, -(CH<sub>2</sub>)<sub>q</sub>SO<sub>3</sub>M, -CH(CH<sub>2</sub>CO<sub>2</sub>M)CO<sub>2</sub>M, -(CH<sub>2</sub>)<sub>p</sub>PO<sub>3</sub>M, -(R<sup>1</sup>O)<sub>x</sub>B, -C(O)R<sup>3</sup>, and mixtures thereof; provided that when any E unit of a nitrogen is a hydrogen, said nitrogen is not also an N-oxide; B is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl,

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$-(CH_2)_qSO_3M$ ,  $-(CH_2)_pCO_2M$ ,  $-(CH_2)_q(CHSO_3M)CH_2SO_3M$ ,  $-(CH_2)_q(CHSO_2M)-CH_2SO_3M$ ,  $-(CH_2)_pPO_3M$ ,  $-PO_3M$ , and mixtures thereof; M is hydrogen or a water soluble cation in sufficient amount to satisfy charge balance; X is a water soluble anion;

k and k' have the value from 1 to about 15; m has the value from 4 to about 400; n has the value from 0 to about 200; p has the value from 1 to 6, q has the value from 0 to 6; r has the value of 0 or 1; w has the value 0 or 1; x has the value from 1 to 100; y has the value from 0 to 100; z has the value 0 or 1.

5. A laundry detergent composition according to any of the preceding claims wherein the cotton polyethyleneimine soil release polymer is selected from polyethyleneimine 1800E7 and its amine oxide derivatives, polyethyleneimine 1200E7 and its oxidised and/or quaternised derivatives, polyethyleneimine 600E20, and/or mixtures thereof.
6. A laundry detergent composition according to any of the preceding claims further comprising a surfactant, preferably a nonionic surfactant.
7. A laundry detergent composition according to claim 6 wherein the nonionic surfactant is an alkyl ethoxylated nonionic surfactant with a C8 to C20 chain length, preferably C12 to C16, and a degree of ethoxylation from 2 to 9, preferably from 3 to 7.
8. A laundry detergent composition according to claim 6 wherein the nonionic surfactant is an alkyl methyl glucamide surfactant with an alkyl chain length from C8 to C20, preferably from C12 to C18.
9. A laundry detergent composition according to any of the preceding claims further comprising a builder, preferably a builder selected from zeolite, sodium tripolyphosphate, layered silicate and/or mixtures thereof.
10. A laundry detergent composition according to any of the preceding claims further comprising a conventional soil release polymer, preferably an anionically end capped polyester, diethoxylated polypropylene terephthalate, and/or mixtures thereof.

11. A method of cleaning a fabric with a laundry detergent composition according to any of the preceding claims.

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